



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,326	09/26/2003	Yong Cheol Park	0465-1030P	5080

2292 7590 06/14/2007  
BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
----------

BIBBINS, LATANYA

ART UNIT	PAPER NUMBER
----------	--------------

2627

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

06/14/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

**Office Action Summary**

Application No.

10/670,326

Applicant(s)

PARK ET AL.

Examiner

LaTanya Bibbins

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to because Figures 5 and 6 are labeled improperly. Given the description of the Figures provided in the Specification, it is suggested that Figure 5 be labeled Figure 6, and Figure 6 be labeled Figure 5.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. ***Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.***

Claim 18 recites the limitation "the recording information" in line of the claim.

There is insufficient antecedent basis for this limitation in the claim.

Claim 30, which depends from claim 28, recites "wherein the at least two areas of the recording medium are front and end parts of a data area of the recording medium" and corresponds to what is shown in Figure 11 of the drawings, while claim 28 recites "wherein the at least two areas of the recording medium are a portion of a data area and a lead-in area of the recording medium" and corresponds to what is shown in Figure 8 of the drawings. Given the dependency of claim 30, it is not possible for one of the at least two areas of the recording medium to reside in both the lead in area (as recited in claim 28) and the data area (as recited in claim 30). In the interest of compact prosecution, the examiner will interpret claim 30 as dependent on claim 27.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1, 9-11, 17, 25, 26, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Park (US PGPub 2001/0009537 A1).**

Regarding claim 1, Park discloses a method for managing an optical recording medium having at least one defective area in a user data area, said method comprising: recording data recorded in the defective area in a spare area of the optical recording medium as replacement data (Figure 1 and paragraph [0028]) and providing a first temporary defect list having a defect entry for the at least one defective area (see Figure 1 and the PDL in paragraph [0029]); and recording a cumulative temporary defect list for an additional defective area in the user data area, wherein the cumulative temporary defect list includes the first temporary defect list previously recorded and at least one additional defective entry for any additional defective area (see the discussion in paragraphs [0030] and [0031] where the PDL stores multiple entries corresponding to defective sectors).

Regarding claim 9, Park discloses the method according to claim 1, wherein each of the first temporary defect list and the cumulative temporary defect list includes management information for the data within the respective defective areas (see

paragraph [0030] where the PDL entry comprises sector numbers corresponding to the defective sector).

**Regarding claim 10**, Park discloses the method according to claim 9, wherein the management information includes a first physical sector number of the replacement data for each defect entry and a first physical sector number of a defective area for each defect entry (see paragraphs [0030] and [0031] where the PDL entry comprises sector numbers corresponding to the defective sector and sectors to be subjected to the replacement process).

**Regarding claim 11**, Park discloses the method according to claim 1, wherein the spare area of the optical recording medium includes an inner spare area and an outer spare area (see Figures 4A and 4B and the discussion of the primary and supplement spare areas in paragraphs [0038] and [0041]), and the step of recording data recorded in the defective area utilizes at least one of the inner spare area and the outer spare area (paragraph [0040]).

**Regarding claim 17**, Park discloses a recording medium comprising: at least one spare area within a data area (see Figure 1); a temporary defect management area for managing replacement data of at least one defective area within a user data area of the data area (see the DMA areas in Figure 1 and paragraph [0031] where the PDL entry comprises sector numbers corresponding to sectors to be subjected to the replacement process); and a cumulative temporary defect list stored within the temporary defect management area, wherein the cumulative temporary defect list includes management information for the replacement data of said at least one

defective area cumulatively recorded and management information for replacement data for at least one additional defective area of the user data area (see the discussion in paragraphs [0030] and [0031] where the PDL stores multiple entries corresponding to defective and replacement sectors).

**Regarding claim 25**, Park discloses the recording medium according to claim 17, wherein each of the management informations of the cumulative temporary defect list includes a first physical sector number of the replacement data for each defect entry and a first physical sector number of a defective area for each defect entry (see paragraphs [0030] and [0031] where the PDL entry comprises sector numbers corresponding to the defective sector and sectors to be subjected to the replacement process).

**Regarding claim 26**, Park discloses the recording medium according to claim 17, wherein the at least one spare area includes an inner spare area and an outer spare area (see Figures 4A and 4B and the discussion of the primary and supplement spare areas in paragraphs [0038] and [0041]), and the replacement data for the at least one defective area is located in at least one of the inner spare area and the outer spare area (paragraph [0040]).

**Claim 32** is drawn to the apparatus corresponding to the method of using same as claimed in claim 1. Therefore apparatus claim 32 corresponds to method claim 1, and is rejected for the same reason of anticipation as used above.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 2-4, 12, 16, 18-20, 27, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable Park (US PGPub 2001/0009537 A1) in view of Ohata et al. (US Patent Number 6,469,978 B1).**

Regarding claim 2, Park discloses the method according to claim 1, as noted in the 35 U.S.C. 102(b) rejection above but does not disclose recording information for accessing the cumulative temporary defect list as temporary disc definition structure information in a temporary disc definition structure area of the optical recording medium. Ohata, however, discloses recording information for accessing the cumulative temporary defect list as temporary disc definition structure information in a temporary disc definition structure area of the optical recording medium (column 1 lines 33-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disc definition structure as taught by Ohata into the method of Park. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to produce a recording medium whose data format is in line with the standard of conventional optical discs (see column 1 lines 15-23).



**Regarding claim 3,** Park discloses wherein the cumulative temporary defect list and the temporary disc definition structure information are recorded in the same area of the optical recording medium (see Figure 1 and the discussion paragraph [0029], specifically regarding the DDS and PDL).

**Regarding claim 4,** Park discloses wherein the cumulative temporary defect list and the temporary disc definition structure information are recorded in a temporary defect management area of the optical recording medium (see Figure 1 and paragraph [0029]).

**Regarding claim 12,** Park discloses the method according to claim 1, as noted in the 35 U.S.C. 102(b) rejection above. Additionally, Park discloses wherein the cumulative temporary defect list is repeatedly recorded (see paragraph [0059] where the PDL registration can be continuously performed) but does not disclose that the cumulative temporary defect list is repeatedly recorded in at least two areas of the optical recording medium. Ohata, however, discloses a method for managing an optical recording medium having at least one defective area in a user data area wherein the defect list is recorded in at least two areas of the optical recording medium (see column 8 lines 39 and 40 where the DMA contains a defect list, and further in column 7 lines 47 and 48 where multiple DMA's have identical contents).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate recording the defect list in at least two areas of the optical recording medium as taught by Ohata into the method of Park. One of ordinary skill in the art at the time the invention was made would have been motivated

to combine the teachings in order to increase reliability (see Ohata column 7 lines 47 and 48).

**Regarding claim 16,** Park discloses recording temporary disc definition structure information in a lead-in area of the optical recording medium (see paragraph [0029] where the DMA, which is located in the lead-in area, includes a disc definition structure).

**Regarding claim 18,** Park discloses the recording medium according to claim 17, as noted in the 35 U.S.C. 102(b) rejection above. In addition, Park discloses a temporary disc definition structure within a lead-in area of the recording medium (see paragraph [0029] where the DMA, located in the lead-in area, includes a disc definition structure), but does not specifically disclose wherein the recording information for accessing the cumulative temporary defect list is stored as temporary disc definition structure information within the temporary disc definition structure. Ohata, however, discloses wherein the recording information for accessing the cumulative temporary defect list is stored as temporary disc definition structure information within the temporary disc definition structure (column 1 lines 33-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disc definition structure as taught by Ohata into the recording medium of Park. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to produce a recording medium whose data format is in line with the standard of conventional optical discs (see column 1 lines 15-23).

**Regarding claim 19**, Park discloses wherein the cumulative temporary defect list and the temporary disc definition structure information are recorded in the lead-in area of the optical recording medium (see Figure 1 and paragraph [0029] where the DMA, which is located in the lead-in area, includes DDS and PDL).

**Regarding claims 20, 27 and 31**, these claims contain limitations similar to those in claims 4, 12 and 16, respectively, and are rejected for the same reasons of obviousness as used above.

**9. Claims 5, 6, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US PGPub 2001/0009537 A1) and Ohata et al. (US Patent Number 6,469,978 B1), as applied to claims 2, 4, 18, and 20 above, and further in view of Ko et al. (US PGPub 2004/0105363 A1).**

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

**Regarding claim 5**, Park and Ohata disclose the method according to claim 2, but do not specifically disclose recording the temporary disc definition structure information and the cumulative temporary defect list information in a final defect management area separately provided in a specified area of the optical recording medium during a disc finalization operation. Ko, however discloses recording the temporary disc definition structure information and the cumulative temporary defect list information in a final defect management area separately provided in a specified area of

the optical recording medium during a disc finalization operation (see paragraph [0102] and paragraphs [0065] and [0066]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the finalization operation of Ko into the method of Park and Ohata. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to enable efficient use of the DMA whose recording capacity is limited (Ko paragraph [0109]).

**Regarding claims 6, 21, and 22**, these claims contain limitations similar to those in claim 5 and are rejected for the same reasons of obviousness as used above.

**10. Claims 7 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable**  
**Park (US PGPub 2001/0009537 A1) in view of Lee et al (US Patent Number**  
**6,934,236 B2).**

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

**Regarding claim 7**, Park discloses the method according to claim 1, as noted in the 35 U.S.C. 102(b) rejection above but does not disclose wherein the optical recording medium is a Blu-ray disc of writable once type (BD-WO). Lee, however, discloses a storage medium with defect management wherein the optical recording medium is a Blu-ray disc of writable once type (BD-WO) (column 8 lines 28-33 and Figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lee and Park. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to provide capability for discs shown or created in the future (Lee column 8 lines 28-33).

**Regarding claim 23**, this claim contains limitations similar to those in claim 7, and is rejected for the same reason of obviousness as used above.

**11. Claims 8 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US PGPub 2001/0009537 A1), Ohata et al. (US Patent Number 6,469,978 B1), and Ko et al. (US PGPub 2004/0105363 A1) as applied to claims 6 and 22 respectively, and further in view of Lee et al (US Patent Number 6,934,236 B2).**

**Regarding claim 8**, Park, Ohata and Ko disclose the method according to claim 6, as noted in the 35 U.S.C. 103(a) rejection above but do not disclose wherein the optical recording medium is a Blu-ray disc of writable once type (BD-WO). Lee, however, discloses a storage medium with defect management wherein the optical recording medium is a Blu-ray disc of writable once type (BD-WO) (column 8 lines 28-33 and Figure 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lee with that of Park, Ohata, and Ko. One of ordinary skill in the art at the time the invention was made would have

Art Unit: 2627

been motivated to combine the teachings in order to provide capability for discs shown or created in the future (Lee column 8 lines 28-33).

**Regarding claim 24**, this claim contains limitations similar to those in claim 8, and is rejected for the same reason of obviousness as used above.

**12. Claims 13-15 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US PGPub 2001/0009537 A1) and Ohata et al. (US Patent Number 6,469,978 B1), as applied to claims 12, and 28 above, and further in view of Takahashi (US PGPub 2002/0136537 A1).**

**Regarding claim 13**, Park and Ohata disclose the method according to claim 12, but do not disclose wherein the at least two areas of the optical recording medium are a portion of a data area and a lead-in area of the optical recording medium. Takahashi, however, discloses wherein the at least two areas of the optical recording medium are a portion of a data area and a lead-in area of the optical recording medium (see the discussion in paragraphs [0074] and [0076] where two or more DMAs may be simultaneously rewritten and the DMA can be moved to another area or two positions).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings Park and Ohata with that of Takahashi. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to maintain the reliability of the data stored in the DMA without multiple writes of the DMA (Takahashi paragraph [0074]).

**Regarding claim 14**, Park and Ohata disclose the method according to claim 13, but do not disclose wherein the portion of the data area is an area adjacent to an outer spare area of the optical recording medium. Takahashi, however, discloses wherein the portion of the data area is an area adjacent to an outer spare area of the optical recording medium (see the discussion in paragraphs [0074] and [0076] where two or more DMAs may be simultaneously rewritten and the DMA can be moved to another area or two positions).

**Regarding claim 15**, Park and Ohata disclose the method according to claim 12, but do not disclose wherein the at least two areas of the optical recording medium are front and end parts of a data area of the optical recording medium. Takahashi, however, discloses wherein the at least two areas of the optical recording medium are front and end parts of a data area of the optical recording medium

**Regarding claims 28, 29 and 30**, these claims contain limitations similar to those in claims 13, 14 and 15, respectively, and are rejected for the same reasons of obviousness as used above.

#### ***Citation of Relevant Prior Art***

**13.** The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Ito et al. (US Patent Number 6,160,778)** disclose an information recording medium including: a volume space in which user data is recorded; a spare area

including a replacement area which may be used in place of a defective area included in the volume space; and a defect management information area in which defect management information for managing the defective area is recorded. The defect management information includes status information indicating whether the defective area is replaced by the replacement area.

**Kim et al. (US Patent Number 6,564,345 B1)** disclose a method for creating/writing defect management information of an information recording medium and an apparatus and optical disc based on the method. It depends on the type of data to be reproduced whether or not defective sectors which are detected during reproduction operation are replaced with non-defective sectors. If read-out errors are detected in reproducing non-audio/video data, linear replacement algorithm is applied to the corresponding defective sectors. On the other hand, in case of audio/video data, location information of the corresponding defective sectors is just kept without any sector replacement. Therefore, this invention enables to reproduce audio/video data in real-time regardless of the presence of defective sectors and to avoid writing data to the defective sectors when new data is overwritten to the information recording medium.

**Ko, (US Patent Number 6,480,446 B1)** discloses a recording medium for storing defect management information to record real time data, a defect managing method therefor, and a method of recording real time data. The recording medium stores information representing use or non-use of linear replacement defect management in which a defective area on the recording medium is replaced with the spare area, in order to record real time data. While maintaining compatibility between the defect



Art Unit: 2627

managing method and a defect managing method based on a current DVD-RAM standard, i.e., while allowing a report of the fact that there are blocks which have not been linearly replaced, linear replacement is not performed when real time data is recorded. Thus, real time data can be recorded and reproduced.

**Sasaki et al. (US Patent Number 6,189,118 B1)** disclose an information recording medium including a disk information area; a user area including a plurality of sectors; and a spare area including at least one sector which, when at least one of the plurality of sectors included in the user area is a defective sector, is usable instead of the at least one defective sector. The spare area is located radially inward from the user area. A physical sector number of a sector to which a logical sector number "0" is assigned, among the plurality of sectors included in the user area and the at least one sector included in the spare area, is recorded in the disk information area.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571) 270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

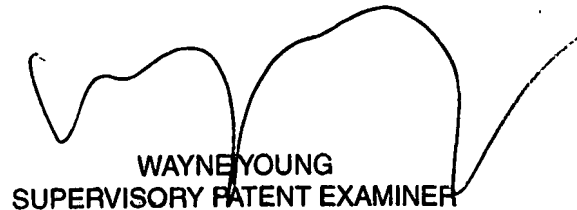
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LaTanya Bibbins



WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER